

After page 71 and before the drawings, please insert the Abstract appended hereto as page 72.

After the drawings, please insert the sequence listing (pages 1-4) appended hereto.

In the Claims:

Please amend the claims as follows:

Please cancel claims 2-20, without prejudice or disclaimer to the subject material contained therein.

Please insert the following new claims 21-39:

21. (New) A method for increasing the permeability of a physiological barrier, comprising administering to a subject in need thereof an effective amount of an agent which promotes tyrosine protein phosphorylation.

22. (New) The method of claim 21, wherein the agent directly or indirectly activates tyrosine protein kinase.

23. (New) The method of claim 21, wherein the agent directly or indirectly inhibits tyrosine protein phosphatase.

24. (New) The method of either of claims 22 or 23, wherein the agent is a vanadium-containing salt.
25. (New) The method of claim 24, wherein the agent is a pervanadate.
26. (New) The method of either of claims 22 or 23, wherein the agent is phenylarsine oxide.
27. (New) A method for the treatment of brain oedema, comprising administering to a patient suffering therefrom an effective amount of an agent which promotes tyrosine protein dephosphorylation.
28. (New) The method of claim 27, wherein said brain oedema occurs as a result of stroke.
29. (New) The method of claim 27, wherein said brain oedema is associated with the occurrence of a brain tumor.
30. (New) A method for the treatment of peripheral oedema, comprising administering to a patient suffering therefrom an effective amount of an agent which promotes tyrosine protein dephosphorylation.

31. (New) The method of claim 30, wherein said peripheral oedema is high altitude pulmonary oedema.

32. (New) A method for blocking the entry into the brain of leukocytes that mediate an immune response, comprising administering to a patient in need thereof an effective amount of an agent which promotes tyrosine protein dephosphorylation.

33. (New) A method for the treatment of multiple sclerosis, comprising administering to a patient suffering therefrom an effective amount of an agent which promotes tyrosine protein dephosphorylation.

34. (New) A method for the prevention of cancer metastasis comprising administering to a patient in need thereof an effective amount of an agent which promotes tyrosine protein dephosphorylation.

35. (New) A method for increasing the transport of a membrane-impermeant compound across a physiological barrier, comprising the complexing of said compound with an agent which promotes tyrosine protein phosphorylation and administering the complex to a subject in need thereof, whereby the transport of said compound is increased.

36. (New) The method of claim 35, wherein said physiological barrier is an inter-endothelial cell tight junction.

37. (New) The method of claim 36, wherein said physiological barrier is the blood-brain barrier.

38. (New) The method of claim 36, wherein said physiological barrier is the vascularisation of a peripheral tumour.

39. (New) A composition comprising an agent which promotes tyrosine protein phosphorylation and a compound to be delivered across a physiological barrier.